

Hubicki, Barbara

Determination of lead in alloys as PbHPO_4 . Włodzimierz Hubicki, Barbara Frank, Czesław Dziewałtowski, and Kazimierz Skarlicki (Lublin, Poland). Ann. Univ. Mariae Curie-Skłodowska Lublin-Palana, Sect. AA, 6, 177-8 (1951) (German summary); cf. C.A. 47, 9214a. Heat a 0.7-g. sample of alloy with 25 ml. concd. HNO_3 , and evaporate to dryness. Treat the residue with several hot H_2O_2 , filter on a hardened filter paper, and wash with 10 ml. H_2O . Dry the ppt. and ignite to SiO_2 in an oxidizing atm. Heat the filtrate to evap. the excess HNO_3 , then add it with 100 ml. H_2O , 0.5 ml. concd. HNO_3 , and 1 ml. H_3PO_4 (d. 1.75). Add concd. NH_4OH dropwise to the hot soln. until pH 1 is reached. Filter off the PbHPO_4 ppt. on a hardened filter paper and wash with cold H_2O to remove H_3PO_4 . After drying at 110°, sep. the filter paper from the ppt. and ignite. Combine the residue with the rest of the ppt. and dry at 200° to const. wt. In the presence of a high ratio, are obtained because of the capture of pb, monomeric.

M. E. B.

✓ 3610. Determination of lead in alloys as phosphate. W. Hubicki, D. Ptasinski, C. Dziewaltowski, and K. Sykut. *Zes. Nauk. Mat.-Curie-Sklodowska*, 1953, 8 (6), 177-184; *Referativnyi Zh., Khim.*, 1955, Abstr. No. 622).—The method of Hubicki *et al.* (*Ann. Univ. M. Curie-Sklodowska*, 1950, 53), is applied to the analysis of Pb-Sn alloys. A sample of alloy (0.7 g) is dissolved by heat in 25 ml of conc. HNO_3 and the Sn is separated as β -stannic acid. The filtrate is evaporated to dryness and the residue is dissolved in 100 to 150 ml of cold water; 0.5 ml of conc. HNO_3 and 4 ml of H_4PO_4 (sp. gr. 1.25) are added and the pH is adjusted to 4 by adding aq. NH_3 soln. The finely crystalline ppt. of PbHPO_4 is collected, washed, and dried to constant wt. at 200° C. The method is not applicable to Pb-Sb alloys; the ppt. of Sb_2O_3 absorbs some Pb and the soln. of $\text{Pb}(\text{NO}_3)_2$ is not free from Sb. E. Hayes

(3)
Df QW

POLAND / Inorganic Chemistry. Complex Compounds.

C

Abs Jour : Rof Zhur - Khimiya, № 14, 1959, No. 48993

Author : Frank, BARBARA

Inst : M. Curie-Sklodowska University

Title : The Determination of the Ionic Weights of Some Complex Compounds by the Method of Dialysis

Orig Pub : Ann Univ M. Curie-Sklodowska, AAll, 47-76 (1958)

Abstract : The author has shown by the application of the method of dialysis, using cellophane membranes, that compounds previously known as double salts
 $(\text{NH}_4)_2 \text{C}_2 \text{O}_4 \cdot \text{Th}(\text{C}_2 \text{O}_4)_2 \cdot \text{H}_2\text{O}$; $2(\text{NH}_4)_2 \text{C}_2 \text{O}_4 \cdot \text{Th}(\text{C}_2 \text{O}_4)_2$; $(\text{NH}_4)_2 \text{C}_2 \text{O}_4 \cdot 2\text{UO}_2 \text{C}_2 \text{O}_4$; $(\text{NH}_4)_2 \text{C}_2 \text{O}_4 \cdot \text{UO}_2 \text{C}_2 \text{O}_4$; $2(\text{NH}_4)_2 \text{C}_2 \text{O}_4 \cdot \text{UO}_2 \text{C}_2 \text{O}_4$; $3\text{K}_2 \text{CO}_3 \cdot \text{Th}(\text{CO}_3)_2 \cdot 10\text{H}_2\text{O}$; $(\text{NH}_4)_2 \text{C}_2 \text{O}_4 \cdot \text{Th}(\text{CO}_3)_2 \cdot 6\text{H}_2\text{O}$; $2(\text{NH}_4)_2 \text{CO}_3 \cdot \text{UO}_2 \text{CO}_3$; and $3(\text{NH}_4)_2 \text{CO}_3 \cdot 2\text{UO}_2 \text{CO}_3$

Card 1/2

POLAND / Inorganic Chemistry. Complex Compounds.

C

APPROVED FOR RELEASE: 06/13/2000, CIA-RDP86-00513R000413530011-3"

actually are salts which contain complex anions:
 $(\text{NH}_4)_8 [\text{Th}(\text{C}_2 \text{O}_4)_4]_8$; $(\text{NH}_4)_4 [\text{UO}_2 (\text{C}_2 \text{O}_4)_3]_7$;
 $\text{K}_8 [\text{Th}(\text{CO}_3)_4]_2$; $(\text{NH}_4)_{16} [\text{Th}(\text{CO}_3)_4]_4$;
 $(\text{NH}_4)_8 [\text{UO}_2 (\text{CO}_3)_3]_2$; $\text{K}_8 [\text{UO}_2 (\text{CO}_3)_3]_2$;
 $(\text{NH}_4)_{20} [\text{Zr}(\text{CO}_3)_5]_4$ [sic: see series above].
Results from the chemical analysis of some of the above compounds confirm the data obtained by dialysis.
For cellophane membranes the constancy of the product of the dialysis coefficient and the square root of the ionic weight is sufficiently valid.
-- I. Slonim

Card 2/2

L 26337-65 EWT(m)/EWP(t)/EWP(b) IJP(c) RDW/JD
ACCESSION NR: AP4040760

Z/0017/64/053/006/0316/0321

AUTHOR: Sanderova, Vera (Shanderova, V.) (Graduate physicist, Candidate of sciences); Kucera, Ludvik (Kuchera, L.); Frank, Bohuslav

TITLE: Comparison of the characteristic parameters of selenium rectifier elements of current production

SOURCE: Elektrotechnicky obzor, v. 53, no. 6, 1964, 316-321

TOPIC TAGS: characteristic parameter, selenium rectifier element, selenium rectifier plate, through flow direction, barrier layer, ohmic resistance, threshold voltage, cutoff voltage, selenium crystallization, load current density

ABSTRACT: The article gives an evaluation of the qualitative development of selenium rectifier elements by comparing the parameters of selenium plates currently being produced (for the period 1961-62). To get an overall picture, measurements were also made on plates produced in the period 1955-56 and the fact was taken into account that with the course of time the resistance in the throughflow direction increases on the one hand, and on the other, a barrier layer is formed on the rectifier. Methods for increasing the efficiency of selenium rectifiers are

Card 1/43

L 26337-65

ACCESSION NR: AP4040760

discussed. Measurements were made on selenium plates produced in the following Western countries: France (Westinghouse), Japan (Origin), German Federal Republic (AEG, Brandt, and Siemens), Austria (Schrack). As there is brisk development in this field in the socialist countries, the parameters of plates in the process of development and which are already in series production in the following countries are given: Czechoslovakia, the USSR, and the German Democratic Republic. In the case of all the plates, the following quantities were measured: 1) resistance in the current direction (i.e., the internal resistance of the selenium plate; 2) the threshold voltage; 3) the cutoff voltage; 4) the ohmic resistance in relation to voltage. In making measurements by the static method the normal circuit was used in determining the volt-ampere characteristic. The same measurements were made using the dynamic method, which is suitable for determination of the operating values of the electrical parameters of rectifying elements. It is pointed out that Czechoslovak-produced selenium plates have undergone a new method of production in which the process of crystallizing the selenium proceeds at the same time as diffusion of the activator from the counter-electrode to the selenium. The measurement results show: a) the value of the effective cutoff voltage spread over 0.6 mA/cm^2 fluctuates in all the selenium plates between 20 and 25 V, high current plates are made for an operating voltage of 25 V; b) the value of the in-

Card 2/4

L 26337-65

ACCESSION NR: AP4040760

2

ternal resistance of the plate in the linear part of the volt-ampere characteristic in the throughflow direction is, in the case of plates produced by the best known manufacturers, less than $2\Omega \text{cm}^2$; c) the threshold voltage attains values of from 0.45 to 0.7 V in all the plates (values of the threshold voltage determined by the dynamic method are in general greater than the values of threshold voltage determined by the static method); e) the density of the load current, assuming that natural cooling will carry off a maximum of 75 W of the power loss from 1 cm^2 of selenium plate surface, fluctuates between 50 and 70 mA/cm^2 . In comparison with plates produced in 1955, the value of the load current has increased more than 100%. Current Czechoslovak production prescribes a load current of 25 mA/cm^2 and an operating temperature not higher than 65°C . Plates with a load current of up to 50 mA/cm^2 are manufactured for special purposes. In conclusion, it is emphasized that dynamic measurements are decisive for the operation of selenium plates as rectifiers, for they operate in the great majority of cases as rectifiers of alternating current. Orig. art. has: 3 tables, 1 formula, and 9 diagrams.

ASSOCIATION: [Sanderova, Frank] Elektrotechnicka fakulta CVUT (Department of Electrical Engineering, CVUT); [Kucera] Elektropriistroj, n. p., vyzkum usmernovacu, Bechovice (Elektropriistroj State Enterprise, rectifier research)

Card 3/4

S/056/62/043/001/040/056
B102/B104

AUTHORS: Frank, D., Meyer, K.

TITLE: Spin wave statistics

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 1(7), 1962, 301-303

TEXT: The influence of the finiteness of atomic spins on the statistic properties of the quasi-particles is investigated. For this purpose a method of considering this finiteness of atomic spins in the spin wave theory is developed. The method is based on the representation of the spin operators

$$S_l^+ = (2S_l - b_l^\dagger b_l)^{1/2} b_l, \quad S_l^- = b_l^\dagger (2S_l - b_l^\dagger b_l)^{1/2}, \quad (1)$$

$$S_l^z = S_l - b_l^\dagger b_l = S_l - n_l,$$

$$[b_l, b_j^\dagger]_- = \delta_{lj} (1 - (2S_l + 1) \delta_{lj}) s_l, \quad [b_l, b_j]_+ = 0.$$

Card 1/3

S/056/62/043/001/040/056
B102/B104

Spin wave statistics

in terms of Fermi operators. (Cf. Frank, Zs. Phys. 166, 494, 1961; Meyer, Zs. Naturf. 16a, 631, 1961). The operators b_i , b_i^\dagger and $b_i^\dagger b_i$ concern annihilation, production, and particle number. If $S_i = 1/2$, the quasi-particle operators b_i are designated by c_i , where $[c_i c_j] = 1 - 2c_i^\dagger c_j$ and

$$\begin{aligned} [c_i, c_j^\dagger]_+ &= 1, \quad c_i^2 = c_i^{\dagger 2} = 0, \\ [c_i, c_j^\dagger]_- &= [c_i, c_j]_- = 0, \quad i \neq j. \end{aligned} \quad (2).$$

The c_i can be transformed into the ordinary Fermi operators a_i by means of

$$a_i = U_1 U_2 \dots U_{i-1} c_i, \quad U_i = 1 - 2c_i^\dagger c_i. \quad (3).$$

For instance, the spin-3/2-operator S_i can be represented as the sum of two spin-1/2-operators S_{Vi}^+

$$\begin{aligned} S_i^z &= S_{ii}^z + 2S_{ii}^x, \quad S_i^\pm = \sqrt{3}S_{ii}^\pm + 2S_{2i}^\pm S_{ii}^\mp; \\ S_{2i}^\pm &= \frac{1}{2}3^{-1/4}(S_i^\pm)^2, \quad S_{ii}^\pm = 3^{-1/4}[(S_i^z)^2(S_i^x)^2 + (S_i^x)^2(S_i^z)^2]. \end{aligned}$$

Card 2/3

Spin wave statistics

S/056/62/043/001/040/056
B102/B104

The S_{Vi} themselves can be expressed by Fermi operators with the aid of (3).

ASSOCIATION: Institut magnitnykh metallov Germanskoy Akademii nauk, Jena
(Institute of Magnetic Metals of the German Academy of Sciences, Jena)

SUBMITTED: February 28, 1962

Card 3/3

L 30028-66 EWr(j) Ww/JWD/RH
ACC NR: AP6020125

SOURCE CODE: GE/0063/65/340/05-/0319/0324

AUTHOR: Uhlemann, E.; Frank, E.

ORG: Institute for Inorganic Chemistry, Karl Marx University, Leipzig (Institut für Anorganische Chemie der Karl-Marx-Universität)

44B

TITLE: Studies of the stability of chelates of sterically hindered beta-diketones

SOURCE: Zeitschrift für anorganische und allgemeine Chemie, v. 340, no. 5-6, 1965, 319-324

TOPIC TAGS: chelate compound, dioxane, chemical stability, dissociation constant, phenyl compound

ABSTRACT:
As a measure of chelate stability, the enol dissociation constants of mesitylacetone, mesitylbenzoylmethane and dimesitylmethane and the stability constants of their Cu(II), Ni(II), Zn(II) and $\text{Pb}^{(II)}$ complexes were determined by a potentiometric method in dioxane-water mixture (75% dioxane by volume) and compared with analogous constants for benzoylacetone and dibenzoylmethane. Substitution of a phenyl group in the β -diketone system by a methyl group causes a decrease in chelate stability. This behavior is discussed on the basis of resonance interactions between the chelate ring and its aromatic substituents. To characterize the β -diketones, some metal complexes were isolated in the solid state.
The authors thank Professor, Dr. H. Holzapfel for assistance in carrying out this work and for support. Orig. art. has: 1 figure and 4 tables. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 07 / SUHM DATE: 07May65 / ORIG REF: 001 / OTH REF: 017

Card 1/1

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

FRANK, Endre

Steel wire cables of the Erzsebet Bridge. Musz elet 19 no.16: 11
30 Jl '64.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

FRANK, Feja, dr, docent; ZIVKOVIC, Vera, dr.

Oribatids (Oribatidae, Acarina) of some pastures of Yugoslavia.
Glas SANU 12 no.2:229 '60 [publ.'62].

1. Docent Veterinarskog fakulteta u Sarajevu (for Frank).

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

ZIVKOVIC, Vera; FRANK, Feja

Oribatidae, Acarina in some parts of Serbia, Bosnia and Herzegovina.
Glas. Srpska akad. nauk [Med.] 17 no.257:141-147 -61.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

RUMANIA, 1959.

COUNTRY :	Rumania	E-55
CATEGORY :		
ABS. JOUR. :	RZKhim., No. 16 1959, No.	59515
NAME:	Fedor, J., Fedor, I., and Frank, G.	
INSTIT.:	Not given	
TITLE :	Improvements in the Processing of Goatskin Diaphragms for Gas Meters	
ORIG. PUB. :	Ind Usoara, 6, No 1, 15-17 (1959)	
ABSTRACT :	The processing of goatskins for the production of gas meter diaphragms and the conditions for each technological process affecting the quality of the leather used in the diaphragms are discussed. A number of batches of Chinese, Indian, and Rumania goatskins were processed by the same method. The skins were subjected to an organoleptic evaluation and to physical and chemical control at each step in the process, with subsequent laboratory analysis. The possibility of	
CARD:	1/2	
NAME:	2/2	

FRANK, G. A. Cand Tech Sci -- (diss) "Alkaline corrosion of construction materials used in enclosing structures of chemical and aluminum plants, and protective measures." Mos, 1959. 20 pp (Acad of Construction and Architecture USSR. Sci Res Inst of Concrete and Reinforced Concrete NIIZhB), 150 copies (KL, 48-59, 116)

MONASTYRSKIY, M.D., inzh.. Prinimali uchastiye: FRANK, G.A., inzh.; FOSS, V.A., inzh.; KALUZHSKIY, M.Ye., inzh.; NAYDENOV, A.P., inzh.; POLUBNEVA, V.I., inzh., red.

[Large-panel house built of foamed cinder concrete hardened without using autoclaves; practices of the "Bazstroi" Sverdlovsk sovnakhoz] Krupno-panel'nyi dom iz neavtoklavnogo zolopenobetona; opyt tresta "Bazstroi" Sverdlovskogo sovnarkhoza. Moskva, 1959. 15 p. (MIRA 13:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stva. Byuro tekhnicheskoy informatsii. 2. Upravlyayushchiy trestom "Bazstroy" Sverdlovskogo sovnarkhoza (for Monastyrskiy). 3. Nachal'nik tsentral'noy laboratorii tresta "Bazstroy" (for Frank). 4. Nachal'nik otdela proizvodstvennykh predpriyatiy tresta "Bazstroy" (for Foss). 5. Nachal'nik proizvodstvennogo otdela tresta "Bazstroy" (for Kaluzhskiy). 6. Glavnyy tekhnolog tresta "Bazstroy" (for Naydenov).

(Sverdlovsk Province--Apartment houses) (Lightweight concrete)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

MOSKVIN, V.M., doktor tekhn. nauk; FRANK, G.A., inzh.

Chemical resistance of clinker minerals and various types of cement
in alkali solutions. Trudy NIIZHB no.9:112-113 '59 (MIRA 13:3)
(Alkalies) (Cement clinkers--Corrosion) (Cement--Corrosion)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

FRANK, G.A., inzh.

Alkaline-resisting structural bricks and methods for protecting
them from corrosion. Prom. stroi. 37 no.7:44-46 Jl '59.
(MIRA 12:10)
(Bricks--Testing) (Corrosion and anticorrosives)

FRANK, G.A., inzh.; FOSS, V.A., inzh.; LEVITSKIY, M.V., inzh.

Large cinder concrete blocks. Rats.i izobr.predl. v stroi.
no.10:19-22 '59. (MIRA 12:11)

1. Proyektnaya kontora Bazstroyproekt. (for Levitskiy).
Po materialam tresta Bazstroy Sverdlovskogo sovmarkhoza.
(Cinder blocks)

FRANK, G.A., kand.tekhn.nauk; CHERNOV, A.V., inzh.

Manufacturing porous ceramics with a base of burned out granules.
Sbor. trud. NII po stroi. ASIA [Rost.] no.6:73-81 '62. (MIRA 17:9)

FRANK, G.A., kand.tekhn.nauk; ALIMOV, Sh.S., inzh.

Additives are accelerators of the hardening of gunite. Sbor. trud.
NII po stroi. ASIA [Rost.] no.6:83-91 '62. (MIRA 17:9)

FRANK, G.A., kand.tekhn.nauk

Lightweight concrete made of agloporite from rock from the
mines of the Donets Basin. Sbor.trud.VNIINSM no.6:102-109
'62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut po stroitel'stvu, Rostov-
na-Donu.
(Donets Basin--Rocks) (Lightweight concrete)

FRANK, G.A. (Moskva)

Liver fibrosis in leukemia. Arkh. pat. no.10:37-43 '64.
(MIRA 18:10)

1. Kafedra patologicheskoy anatomii (zav.- prof. A.V.
Smol'yannikov) Tsentral'nogo instituta usovershenstvovaniya
vrachey.

FRAK G.
(876)

budapesti Tudomanyegyetem III sz. Sebeszeti Klinikajarol. Mutet utani ductus thoracicus-sipoly es ezen alkalombol vegzett egydeju osszehasonlito vizhalatok az emberi ver es nyirok kozott A case of postoperative fistula of the thoracic duct and comparative examination of human blood and lymph Orvosok Lapja 1948, 4/11 (360-363) Graphs 2 A case is described in which in the course of an operation a fistula of the thoracic duct occurred. Lymph could be collected simultaneously with blood and comparative examinations for sugar, Ca and prothrombin time were carried out. The analysis of glucose tolerance curves revealed the fact the post-absorptive rise in blood-sugar precedes the rise of lymph sugar and the authors take this as proof of reflectoric glycogenolysis of the lever after ingestion of glucose. Later on the lymph sugar rises to higher values, but there is no parallelism between the two curves.

Balint - Budapest

SO: Excerpta Medica, Vol. 11, No. 4, Sect. 11 - April 1949

11-6
C.A. FRANK, G.

Blood-coagulation factors and ion concentration of contents of vesicles from burning. Gyorgy Frank and Lévent Borsódi. *Orvosi Hetilap* 90, 392-1 (1949).—Analyses showed total protein 2.4-4.8%, albumin-globulin ratio 3.1-4.2, thrombokinase 0.0, prothrombin 10-30 mg. %, fibrinogen 72-120 mg. %, heparin lower than normal, Ca 18-27, K 19.8-39.0, Na 470-580, NaCl 500-840, and Cl 810-920 mg. %. A linear correlation existed between fibrinogen, prothrombin, and heparin contents. The changes of blood-coagulation factors or electrolytes showed no correlation to severity of burning or to the period elapsed since the burning. The contents of vesicles could be regulated by local application of thrombin solns. I. P.

FRANK, G.

Tasks and functions of the National Blood Supply Service. Orv. hetil.,
Budap. 93 no.3:69-71 20 Jan 52. (CIML 21:5)

1. Doctor.

FRANK, Gyorgy, dr.

Homotransplantation and preservation of the skin in burns.
Magy. sebeszet 8 no.2:93-103 Apr 55.

I. A Fovarosi Kun utcai Korhaz Eges-serulesi osztalyanak
ozlemene. Fovrves: Frank, Gyorgy dr.

(BURNS, surgery,
skin transpl., homogenous.)

(SKIN TRANSPLANTATION, in various diseases,
burns, homogenous.)

FRANK, Gyorgy, dr.; VEGHELYI, Peter, dr.

Hypothermia and hibernation. V. A new method of the treatment
of extensive deep burns; free transplantation of the skin. Orv.
hetil. 96 no.18:494-495 1 May 55.

1. A Budapesti Orvostudomanyi Egyetem I. sz. Gyermekklinikajának.
(Igazgató: Gegesi-Kiss, Pal dr. egyet. tanár) és a Fövarosi Kun
utcai Kórház (Igazgató: Erczy, Miklós dr.) Egészséghületi Osztályának
(főorvos: Frank, György dr.) közleménye.

(BURNS, surgery,
resect. of damaged area & skin transpl., artif.
hibernation in.)

(HIBERNATION, artificial,
in burn surg., in resect. of damaged area & skin
transpl.)

(SKIN TRANSPLANTATION, in various diseases,
burns, artif. hibernation in.)

FRANK, Gyorgy, dr.

Synthetic materials in coating of wounds. Orv. hetil 97 no.18:
496-499 29 Apr 56.

1. A Novarosi Kun utcai Korhaz Egyes-serulesi osztalyanak
(foorvos: Frank, Gyorgy dr.) koslemenye.

(WOUNDS AND INJURIES, ther.

nylon & polyvinyl coating, methods & eff. (Hun))

(NYLON

coating in ther. of wounds, methods & eff. (Hun))

(PLASTICS

polyvinyl coating in ther. of wounds, methods & eff.

(Hun))

FRANK, Gyorgy, dr.

Current problems of bacteriology of burns and of the septic stage,
with special consideration to antibiotic resistance and its
practical aspects. Orv. hetil. 97 no.22:607-610 27 May 56.

1. A Fovarosi Kun utcai Korhaz igaz. Mrczy Miklos dr.) Eges-serulesi
Osztal. (foorvos: Frank Gyorgy dr.) kozl.

(BURNS, bacteriol.

antibiotic resist. studies, prev. of septicemia (Hun))

(ANTIBIOTICS, resist. & sensitivity

bact., in burns (Hun))

(BACTERIA, resist. & sensitivity

antibiotics, in burns (Hun))

FRANK, G., Dr.

Up-to-date treatment of shock due to burns; our results in 1178 cases.
Ther. hung. no. 5:24-28 1957.

1. From the Burns Unit (Head-Physician: Dr. Gyorgy Frank), Municipal Hospital of Kun utca, Budapest.

(BURNS, compl.

shock, ther.)

(SHOCK, ther.
in burns)

D'YERD', Frank [György, Frank]; kand.med.nauk (Vengriya)

Primary and accelerated wound necrectomy and skin transplantation in
burns. *Mihirurgia* 35 no.7:38-44 J1 '59. (MIRA 12:12)
(BURNS, surgery)
(SKIN TRANSPLANTATION)

FRANK, Gyorgy, Dr.

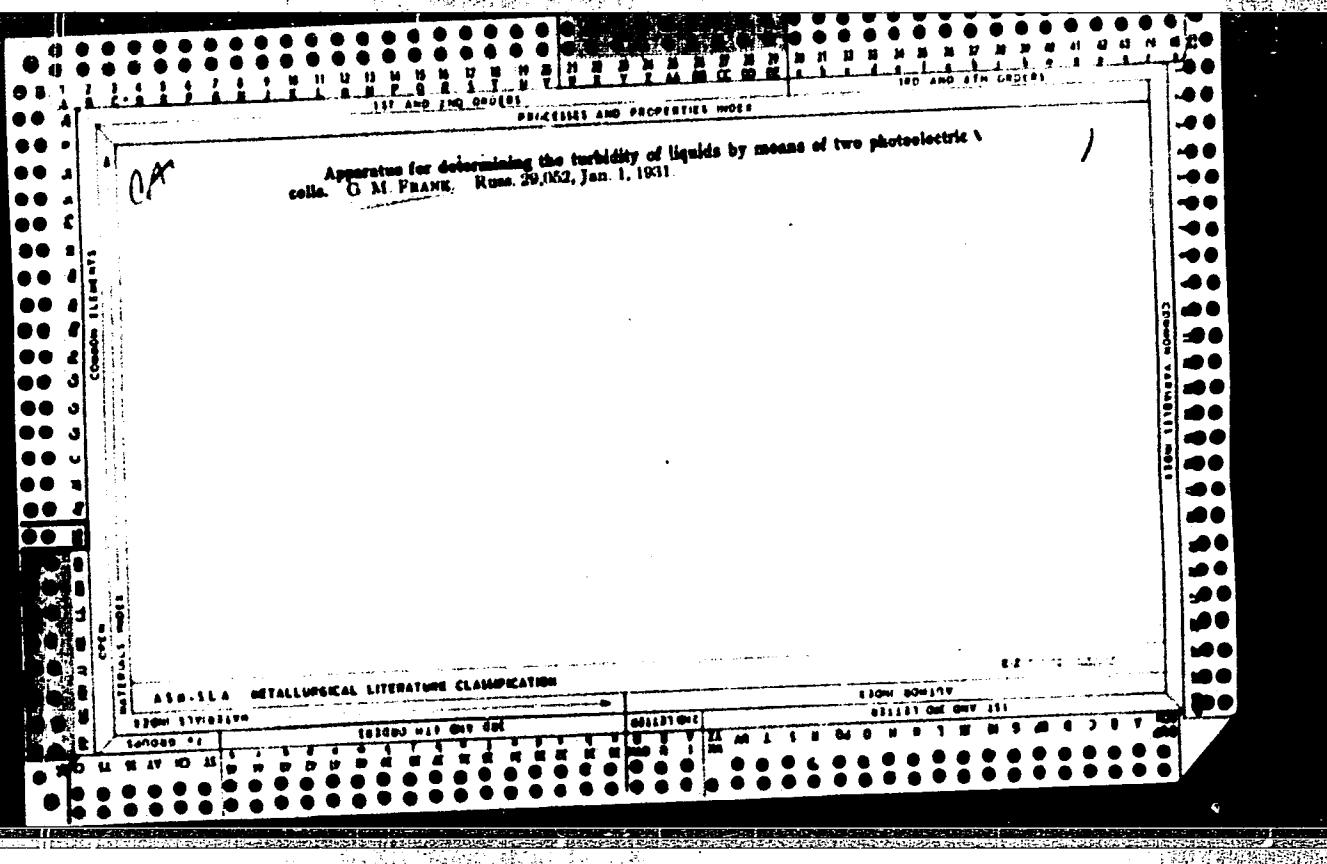
Initial and accelerated early plastic surgery of burn injuries. Orv.
hetil. 100 no.10:351-355 8 Mar 59.

1. A fov. kun utcai (igazgato: Galambos Jozsef dr.) egés serülesi osztal-
yanak (foorvos: Frank Gyorgy dr., az orvos tudományok kandidátusa) kozle-
menye.

(BURNS, surg.
plastic, initial & accelerated early surg. (Hun))

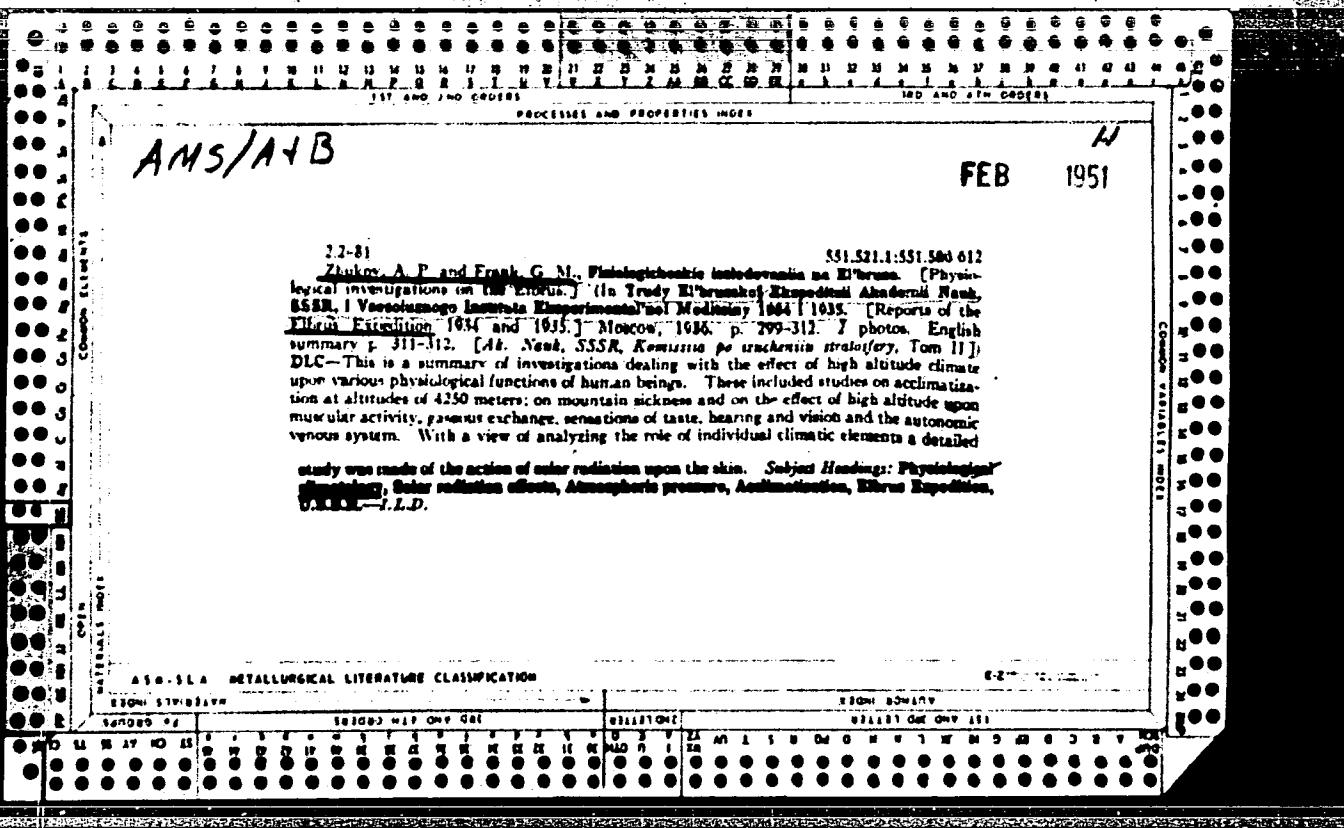
"APPROVED FOR RELEASE: 06/13/2000

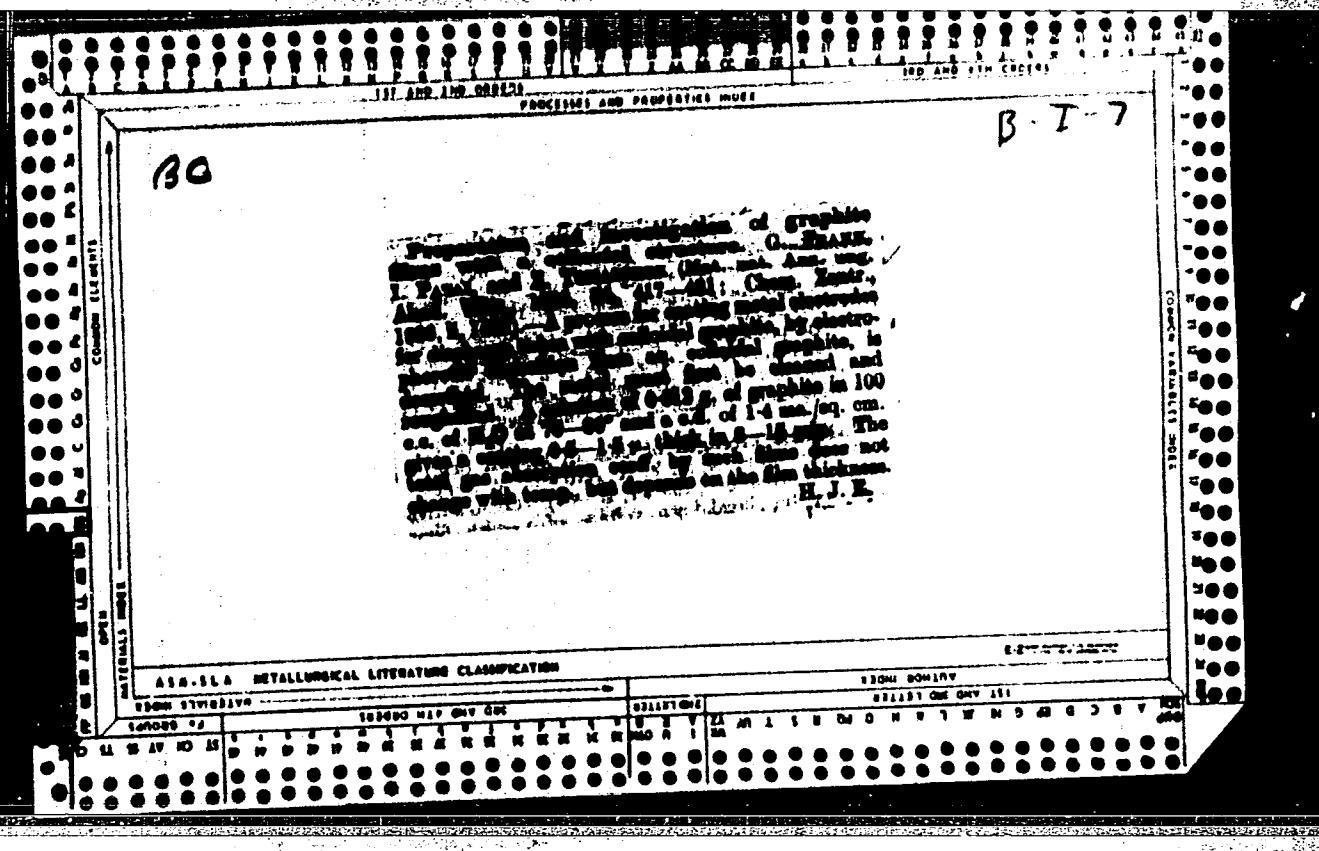
CIA-RDP86-00513R000413530011-3

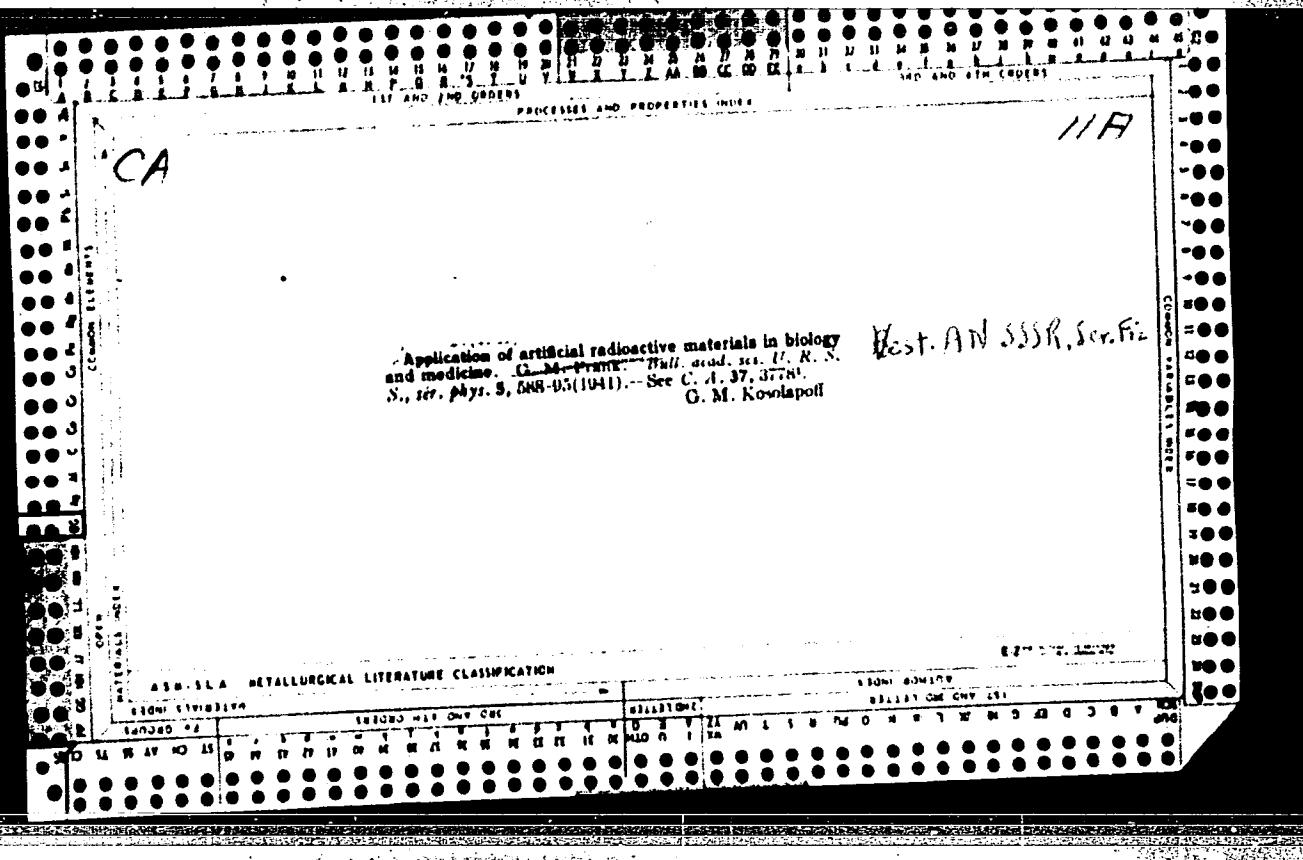


APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"







Distribution of radioactive phosphorus in experimental osteotuberculosis. I. M. Verkhovskaya and G. M. Frank. Byull. Akad. Biol. Med. 18, No. 7/8, 19-23 (1944).—Fifteen rabbits were injected intravenously with 5 c.c. of sterile radioactive Na₃³²PO₄. Six healthy rabbits and 8 rabbits injected with turpentine served as controls. In animals with tuberculosis more Rd-P was found in the epiphysis, articular cartilage, and in diseased bones than in healthy bones. The distribution of Rd-P in the bones of "turpentined" rabbits was identical in both legs. In control animals, P is easily absorbed by the bones but not retained so long, owing to the increased rate of passage of mineral substances. The difference is smoothed out with time. A similar picture was observed in chicks suffering from rickets. S. G. Macbeth.

116

CA

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

KORNAKOVA, Ye. V., FRANK, G. M., and SHTEYNGAIS, L. N.

"On Structural Processes in the Nerve." Zef. Zhur., Vol 33, No 4, 1947, p 483.
Physiology Inst imeni Academician I. P. Pavlov, Acad Sci USSR.

SO: U-1396

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

FRANK, G. M.

"Experimental Basis of Physical Therapy," Vest. Ak. Nauk SSSR, No.2, 1948

Cor.Mbr. AMS USSR

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

FRANK, G.M.

[Ultraviolet radiation and hygiene] Ul'trafioletovoe izluchenie i
gigiena. Pod red. G.M.Franka [i dr.] Moskva, 1950. 154 p. (MLRA 7:6)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Komitet gigiyeny
osveshcheniya.

(Ultraviolet rays--Physiological effect)

4

11/2

The molecular structure of oriented protein in muscles.
G. Frank, N. Lernashukhin, and V. Kanauchkin (Lab.
Biophys., I. P. Pavlov Physiol. Inst., Acad. Sci. U.S.S.R.).
Izdat. Akad. Nauk S.S.R. 70, 613-16
(1957).—The dehydration process in muscles proceeds
by a contraction of the chains of unoriented muscle pro-
tein as shown by the x-ray diffraction lines at 4.5 Å. and
0.8 Å. The latter is known to be accord. with the folded
α-form of proteins such as myosin. In live muscle a line
at 5.1 Å. was noted. The possibility is not excluded that
this diffraction line, which was not observed by Astbury
(C.A. 41, 0004e), resulted from the exposure of the muscle
during the x-ray measurement. H. K. Livingston

Dr. R. A. S. S. R.

8
IRM

7749

USE OF RADIOACTIVE COBALT IN GAMMA-DEFECTOS.

COPY 2 A. V. Elbergal, V. V. Bokhnev, B. M. Isayev,
U. Ya. Markelle, and O. M. Franki. Akademiia Nauk S.S.R.B.,
1951. (In Russian) (BOOK on display at Geneva Conference)

Results of investigations carried out for the purpose of
obtaining data for the practical application of artificial and
radioactive cobalt in γ -defectoscopy. Main problems
connected with the use of Co^{60} in defectoscopy. Description
of new devices developed for applying Co^{60} with an activity
of up to 100 g-equiv. of radium in γ -defectoscopy. New
technical opportunities in this field. (publisher's note)

LYUDKOVSKAYA, R.G.:FRANK, G.M.

Visual modifications in myelinated nerve during irritation. Doklady Akad. nauk SSSR 87 no. 3:389-392 21 Nov 1952. (CIML 23:5)

1. Presented by Academician A. I. Oparin 20 September 1952. 2. Institute of Biophysics of the Academy of Sciences USSR.

KORNAKOVA, Ye. V.:FRANK, G.M.

Modifications of mechanical properties in the nerve during its
stimulation. Doklady Akad. nauk SSSR 87 no. 4:555-558 1 Dec 1952.

(CIML 23:5)

1. Presented by Academician A. I. Oparin 20 September 1952.

(MOSCOW), FRANK, G. H. PROF.

USSR/Medicine - Morphology

Nov/Dec 53

"Plenary Session of the All-Union Scientific Society of Anatomists, Histologists, and Embryologists, in Leningrad," D. A. Zhadanov and E. Sh. Gerlovin

Usp Sov Biol, Vol 36, No 3(6), pp 380-389

This session was held 23-27 Jun 53 in Leningrad to discuss the role of morphology in the USSR, new methods and techniques of morphological research, and plans for making anatomical and histological work in higher institutes of learning serve a more practical purpose. The key speech was made by A. N. Studitskiy and "The Tasks of Soviet Morphology." He only mentioned the existence of tasks and then plunged into a theoretical discussion of the Soviet concept of morphology. This speech was discussed, then other reports were read, among them "Electron Microscopy in Cytohistological Research" by Prof. G. H. Frank (Moscow), and a report on Radioautography by A.H. Kuzin (Moscow). The article does not disclose any new organizational plans.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

FRANK, G. M.

"On the Early Reactions of the Organism to Irradiation as Dependent on the Site of Application," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

USSR / Human and Animal Physiology. The Effect of
Physical Factors. Ionizing Irradiations.

T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102355.

Author : Frank, G. M.

Inst : AS USSR.

Title : On Early Organism Reactions to Irradiation in De-
pendence on the Localization of Influence.

Orig Pub: V sb.: Deystviye obлучeniya na organism. M., Izd-
vo AN SSSR, 1955, 112-136.

Abstract: A survey of literature and of works of the author
in the Institute of Biophysics, Soviet Academy
of Sciences. Bibl. 20 items.

Card 1/1

127

USSR/Human and Animal Physiology - Blood. Formed Elements.

T-3

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84011

Author : Lemazhikhin, B.K., Frank, G.M.

Inst : Institute of Biological Physics, AS USSR

Title : Determining the Size of Erythrocytes in Connection with
Problems of Biologic Effects of Ionized Radiation by
Methods of Light Diffraction.

Orig Pub : Tr. In-ta biol. fiz. AN SSSR, 1955, 1, 276-287

Abstract : Blood was taken from ear veins of rabbits. Then, it was dissolved in an isotonic Ringer solution, admixed with sodium citrate and placed into a 0.1 mm deep glass cuvette. In order to achieve better diffraction, erythrocytes (E) must adhere to the bottom of the cuvette after they have set (8-10 minutes). The animals were irradiated with 800 r. Erythrocyte counts pointed to a deepseated reactive

Card 1/3

USSR/Human and Animal Physiology - Blood. Formed Elements.

T-3

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84011

Size increases of E were not observed on dry smears.
This proves that many fine changes of E cannot be unco-
vered when dry smears are used. -- T.I. Koretskaya

Card 3/3

FRANK,G.M., professor

Ionizing radiation and its effect on living matter. Priroda 44
no.9:9-18 S '55. (MLRA 8:11)
(Radiation--Physiological effect)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

REPRINTED FROM THE JOURNAL OF PHYSIOLOGY, LONDON, 1956, VOL. 132.

"ON THE CHANGE OF STRUCTURAL AND MECHANICAL PROPERTIES
OF THE NERVE IN SPREADING OF EXCITATION"

PP. 366, Reports Given at the 20th International
Congress of Physiologists, Brussels, 30 Jul-4 Aug 56

Translation E-5368

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

LAZAREV, P.P.; SHULEYKIN, V.V., akademik, redaktor; DERYAGIN, B.V., redakteur;
FRANK, G.M., redaktor; VOLAROVICH, M.P., professor, redaktor;
YEFIMOV, professor, redaktor; MASLOV, professor, redaktor; KUZIN,
A.M., professor, redaktor; KUZNETSOVA, Ye.B., redaktor; SHEVCHENKO,
G.N., tekhnicheskiy redaktor.

[Collection in memory of Academician P.P.Lazarev] Sbornik posviashchennyi pamiati akademika P.P.Lazareva. Moskva, Izd-vo Akademii nauk SSSR, 1956. 374 p.
(MIRA 9:6)

1. Akademiya nauk SSSR. 2.Chlen-korrespondent AN SSSR (for Deryagin). 3.Chlen-korrespondent AMN (for Frank).
(Physics) (Physiology) (Geophysics)

USSR/Human and Animal Physiology (Normal and Pathological).
Nerve and Muscle Physiology.

T

Abs Jour: Ref Zhur-Diol., No 17, 1958, 79911

Author : Frank, G.M.

Inst :

Title : On the Structural and Physical-Chemical Processes
During Muscle Contraction.

Orig Pub: V sb.; Probl. sovrem. fiziol. nervn. i myshechn. system.
Tbilisi, AN GruzSSR, 1956, 475-486.

Abstract: A highly-sensitive method of immediate measurement
was studied by the intensity of X-rays during dif-
fraction under various angles. Calculations were
established for the required angle, but at the ex-
pense of the turning of the muscle - and in a cor-
responding area, a relay was turned on which auto-

Card : 1/3

USSR/Human and Animal Physiology (Normal and Pathological).
Nerve and Muscle Physiology.

T

Abs Jour: Ref Zhur-Diol., No 17, 1958, 79911.

ntically reported the excitation of the muscle, by "assembling" the pulses on the indicator in the system of excitation. In 2 seconds, the excitation was switched off; simultaneously, the indicator was switched off; and a ten-second rest interval followed, which was also set automatically. After rest, the cycle was repeated. The accuracy of the angular spread of the X-rays which diffused the muscles for a relatively short period of time can be determined to < 1%. The character of the intensity of the diffusion of the X-rays under various angles of the equatorial area during dormancy and contraction varied. The intensity of the diffusion fell insignificantly at angles of 18-20° and increased at angles of 22-24°.

Card : 2/3

The effect of ionizing radiations on the antigenic properties of proteins. N. A. Zilberman, V. A. Artamonova, G. M. Frank, and A. D. Sretenski. *Radiotekhnika i Radiofizika*, No. 1, pp. 100-104, 1966 (1966).
 Rats and mice were subjected to 1100 r. γ -radiation. At 3-6 and 25-28 days after the doses of irradiation, the animals were killed and the antigenic content of the tissues of the livers and spleens compared with those of a control. The following fractions of the liver tissues were studied: microsomal, nucleoproteins, globulins and initial erythrocytic ext.; only the last fraction of the spleen was studied. The following procedure was used in obtaining the initial ext. of the liver and spleen tissues: small tissues face-to-face ext. with 0.85% NaCl for 6 min., centrifuge homogenate at 10,000 rpm., discard sediment and use supernatant as the initial erythrocytic protein ext. Obtain nucleoproteins as follows:
 Add 5% AcOH to pH 6.0 and centrifuge against the supernatant fluid to discarding sediment; wash twice with 0.5% citric acid solution, wash twice with 0.5% NaCl, dissolve in H₂O, add alumina with 0.5% NaOH to pH 7.0. Ppt. the globulin fraction with (NH₄)₂SO₄ added to 35% sat. at 0°. The globulin ppt. will be obtained within 2 hr. Sep. globulins from the sediment with 30% (NH₄)₂SO₄; centrifugation: wash twice with 30% (NH₄)₂SO₄. As the dialysis against running 0.85% NaCl for 30-40 hr., the (NH₄)₂SO₄ is being dialyzed out the globulins go into soln., in which form they are used in the study of antigenic properties. The microspherical fraction of the liver was prep. by the method of Claude as modified by Horwitz, et al. (C.A., 42, 4677). In this case the tissue was homogenized in 0.85% glucose soln. Microfibrillar detail were made by electron or each fraction. As a consequence of this

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

21/ber. IV. A - Antigenic...

General irradiation of the rabbits with x-rays the antigenic properties of the liver and spleen tissue changes we can see shown by anaphylactic and renaturation reactions. These antigenic changes were found in the ultrafiltrate of the protein of the liver and were not observed in the ultracentrifugal and gelsolin fractions. Similar changes were observed about in saline extar of rabbit spleen by radiation of the tissue with x-rays.

P.S. Levine 2/2

USSR/Human and Animal Physiology (Normal and Pathological).
Nerve and Muscle Physiology.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79910.

Author : Lernzhikhin, B.K.; Frank, G.M.

Inst :

Title : Intra-Vitamin Investigation of Muscles by the Method
of X-Ray Analysis.

Orig Pub: Biofizika, 1956, 1, No 1, 16-22.

Abstract: The structure of muscles dormant and during isometric contraction were studied by means of the study of X-ray (X) diffraction pictures using a large angle ionization method of registration. A chamber with the isolated sartorius of a frog was fastened on a stand in the center of two rotating supports on which recorders were placed; by changing their po-

Card : 1/3

USSR/Human and Animal Physiology (Normal and Pathological).
Nerve and Muscle Physiology.

T

Abs Jour: Ref Zhur-Diol., No 17, 1958, 79910.

sition, one could measure the angular spread of the intensity of X-ray diffusion of the muscles in the selected area. The course of the primary beam was coincident with the axis of rotation of the chamber, the turning of which allowed the measuring of the X diffusion in the meridional, equatorial or any intermediate area. By means of an automtic relay, the pulses which fit comparative conditions are separately summarized by the calculating indicators for strictly-determined small periods of dormancy (or contraction) of the muscle. The method permitted finding the change of X-ray intensity with an accuracy to 1%. In the peridianal area, during contraction of the muscle, no changes of the angle of spread in comparison with

Card : 2/3

67

Plank, G. M. and Lemashikin, B. K.

Determination of the Dimensions of Erythrocytes in Connection with the Problem of
Biological Action of Ionizing Radiation

Trudy Instituta Biologicheskoy Fiziki, No 1, 1956
S916, 5 Mar 1956, p49

Describes a method to be used in diagnosing injury produced by ionizing
radiation.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

MEYSEL', M.H.; FRANK, G.M.

Conference on microscopy. Biofizika 1 no.2:183-188 '56. (MLR 9:9)
(MICROSCOPY)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

FRANK, G.M.

New submicroscopic cell structures revealed in the electron microscopy of ultrafine sections. Biofizika 1 no.4:346-361 '56.

(MIRA 9:9)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(ELECTRON MICROSCOPY) (CELLS)

FRANK, G.M.; GABELOVA, N.A.; MARKOV, V.V.; MARTUSOV, Ye.T.(Moskva)

Radiograph, a universal nonlinear integrating device for in vivo
research by means of radioactive isotopes. Biul. eksp. biol. i med.
41 no.1:73-76 Ja. '56. (MLRA 9:5)

(ROENTGENOGRAPHY, appar. and instruments
universal non-linear integrating device for research during
lifetime with radioactive isotopes)

LAZAREV, P.P., akademik; VAVILOV, S.I. [decensed], akademik, red.;
ORBELI, L.A., akademik, red.; SHULEYKIN, V.V., akademik, red.;
DERYAGIN, B.V., red.; KRAVKOV, S.V. [deceased], red.; VOLAROVICH,
M.P., doktor fiz.-matem.nauk, red.; KOVNER, S.S., prof., red.;
~~FRANK~~ G.M., d-r biolog.nauk, red.; YEFIMOV, V.V., d-r biologich.
nauk, red.; MASLOW, N.M., nauchnyy sotrudnik, red.; GESSEN, L.V.,
red.izd-va; ZELENKOVA, Ye.V., tekhn.red.

[Works] Sochinenia. Moskva, Izd-vo Akad.nauk SSSR. Vol.1.
1957. 895 p. (MIRA 11:1)

1. Chlen-korrespondent AN SSSR (for Deryagin, Kravkov).
(Physics)

USSR / Human and Animal Physiology (Normal and Pathological). Effect of Physical Factors. Ionizing Irradiations.

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 98027

Author : Frank, G. M.

Inst : Not given

Title : On Intravital Investigations of Early Changes in the Organism Caused by Ionizing Irradiation

Orig Pub: Tr. Vses. konferentsii po med. radiol. Eksperim. med. radiol. M., Medgiz, 1957, 91-95

Abstract: The intensity of free O₂ in brain tissue was registered by a vital polarographic method. In the first hours after irradiation, the amount of free O₂ in the brain increased, which evidences the decrease

Card 1/3

USSR / Human and Animal Physiology (Normal and Pathological). Effect of Physical Factors. Ionizing Irradiations.

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 98027

of the ability of tissues to its utilization. In arterial blood, the content of O₂ decreased at the time when the venous-arterial difference for O₂ and CO₂ increased. By screening the head for the duration of irradiation, the process of O₂ utilization disturbance developed only by direct irradiation, since by this the venous-arterial difference increased and the tissue oxymetry did not show excess O₂ in the brain. The importance of study of the direct effect of irradiation on the living cells is stressed. In a number of cases, the coccaled effect of direct irradiation was established by subsequent creation of unfavourable conditions of environment. Thus, by placing of irradiated erythrocytes into

Card 2/3

109

USSR / Human and Animal Physiology (Normal and Pathological). Effect of Physical Factors. Ionizing Irradiations.

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 98027

hypotonic solution, their hemolysis took place ten minutes later (in the conteol, after 20 minutes).
-- G. A. Zubovskiy

Card 3/3

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

~~SECRET~~
KUZIN, A.M.; FRANK, G.M.

Development of biophysics during the 40 years following the Great
October Socialist Revolution. Biofizika 2 no.5:545-551 '57.
(BIOPHYSICS--RESEARCH) (MIRA 10:11)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

KURDJMOV, G.V. [Kurdyumov, G.V.]; NEJMAN, M.B. [Neyman, M.B.]; FRANK, G.M.

Use of radicisotopes in the Soviet Union. Jaderna energie 3 no.11:389-
399 N '57.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

• IRAN K. is M

AUTHORS: Kurdyumov, G. V., Neyman, M. B., Frank, G. M. 89-11-9/9

TITLE: The Use of Radioactive Isotopes in the USSR (Primeniye radioaktivnykh izotopov v SSSR)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 11, pp. 465-478, (USSR)

ABSTRACT: Only some of the most important uses of radioactive isotopes in chemistry, biology, medicine and agriculture are described:
I. Radioactive isotopes in chemistry.
1) Anorganic chemistry.
a) Mechanism of the isotope of complex compounds of Pt, Br.
b) Mechanism of the formation of thiosulphate.
c) Establishment of the diffusion exchange theory for the systems solid body-gas, solid-liquid, etc.
2) Analytical chemistry.
a) Use of indicators.
b) Absorption of carbon for the separation and purification of radioisotopes.
c) Chromatographic separation of salts and gaseous mixtures.
3) Physical chemistry.
a) Determinations of the vapor pressure of metals, salts and oxides.
b) Rapid method for the determination of solubility.
4) Chemical kinetics
5) Organic chemistry

Card 1/3

TOP SECRET

The Use of Radioactive Isotopes in the USSR.

89-11-9/9

- a) Determination of the rearrangement of closed groups, rings, etc.
- b) Determination of the place where the splitting of a large molecule or ring etc. takes place
- c) Participation of oxygen in catalytic oxidation processes

II. Radioactive isotopes in engineering.

- 1) Gammadefectoscopy (samples with a thickness of up to 300 mm)
- 2) Control of working processes (Co , Ir^{190} , Cs^{137} , Tm^{170})
- 3) Employment in the current thickness measurement without disturbing the working process, but on the contrary to control it
- 4) Search for new ore and oil deposits
- 5) Use in mining and in foundries

III. Radioactive isotopes in biology and medicine

- 1) Determination of the exchange of phosphorus in the sick tissue, in the lungs, in the central nervous system
- 2) Determination of the exchange of iodine
- 3) Use in therapeutics (internally and externally applied)
- 4) Determination of the speed of an exchange process in dependence on the functional state of the central nervous system
- 5) The use labelled microorganisms for determinations of immunity
- 6) Gammsterilization

Card 2/3

IV: Radioactive isotopes in agriculture

89-11-9/9

The Use of Radioisotopes in the USSR.

- 1) Determination of the actual course of photosynthesis
 - 2) Determination of the actual process of nutrition in plants
 - 3) Biosynthesis of chlorophyll
 - 4) Improvement of fertilizers
- There are 3 figures and 98 references.

AVAILABLE: Library of Congress

Card 3/3

FRANK, G. M., ALAD²⁴YALOVA, N. A. and SNEZHKO, A. D.

"Biophysical Analysis of the Mechanisms of Biological Effect of Ionizing Radiation."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy,
Geneva, 1 - 13 Sep 58.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

Frank G. M.
GABELOVA, N. A. and FRANK, G. M.

"Techniques for the Study of Rapid Substance Movement in a Living Organism
Using Gamma-Radioactive Isotopes."

paper to be presented at the 2nd UN Intl. Conf. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sept 58.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

FRANK, G. I.

"Structural- and physical-chemical bases of the creation and propagation of an excitation over nerve fibres!".

report presented at a Joint Session of the Biological Dept. of AN USSR and Biological and Medical Dept. AN Gruziya SSR, Tbilisi, 28 Sept - 3 Oct 1957. Vestnik Akad. Nauk SSSR, 1958, Vol. 28, No. 1, pp. 121-125. (author Dzidzishvili, N. N.)

FRANK, G.M., prof., otv.red.; VARSHAVER, G.S., dotsent, zamestitel' otv. red. (Moskva); GALANIN, N.F., prof., red. (Leningrad); DANTSIG, N.M., prof., red. (Moskva); LAZAREV, D.N., kand.tekhn.nauk, red. (Leningrad); SOKOLOV, M.V., prof., red. (Moskva); SKOBELEV, V.M., kand.tekhn.nauk, red. (Moskva); LANDAU-TYLKINA, S.P., red.; KHANOVA, T.M., red.; LYUDKOVSKAYA, N.I., tekhn.red.

[Ultraviolet radiation; sources, measurement, hygienic and therapeutic use] Ul'trafioletovoe izluchenie; istochniki, izmerenie, gigienicheskoe i lechebno-profilakticheskoe primenenie. Moskva, Gos.izd-vo med.lit-ry, 1958. 298 p. (MIRA 13:3)

1. Chlen-korrespondent AMN SSSR (for Frank, Galanin).
(ULTRAVIOLET RAYS)

FRANK, G. M.

"Submicroscopic structure of some cell textures and muscle fibrils"

report presented at the 10th All-Union Conf. on Highly Molecular Compounds,
Biologically Active Polymer Compounds, Moscow, 11-13 June 1958. (Vest. Ak
Nauk SSSR, 1958, No. 9, pp. 111-113)

FRANK, G. M. and SAMOSUDOV, N. V.

, "Electron Microscopy Examinations of Two Types of Muscle Contraction"

paper submitted for presentation at Fourth Intl. Conference on Electron Microscopy, Berlin, GFR, 10-17 Sep 58.

Institute for Biophysics, Acad. Sci. USSR.

C-3,000,829, 25 Jul 58.

USSR/Human and Animal Physiology - Nerve and Muscle Physiology. ■

Abs Jour : Ref Zhur Biol., No 3, 1959, 13132

Author : Frank, G.M.

Inst : AS USSR

Title : Physical, Chemical, and Structural Processes in the Origin and Diffusion of Excitation Along the Nerve Fibers.

Orig Pub : Izv. AN SSR, Ser. biol., 1958, No 1, 26-38

Abstract : The course of the structural processes in the nerve was estimated by observing changes in tenacity, translucence, diameter (volume elastic wave), indicatrix of light diffusion, and submicroscopic structure. When the pulsless nerve was stimulated, the structure of the protoplasm revealed comparatively gross, slow changes which were manifested in an intensified tenacity and diminished

Card 1/2

USSR/Human and Animal Physiology - Nerve and Muscle Physiology. ■
APPROVED FOR RELEASE 06/13/2000 CIA-RDP86-00513R000413530011-3

Abs Jour : Ref Zhur Biol., No 3, 1959, 13132

translucence. In the myelin-containing nerve these changes were preceded by a decrease in tenacity and a rise in translucence. The author associates the slow, structural processes with the appearance of reverse denaturation (Nasonov), while he denotes the rapid processes as "molecular". The question arises about the relationship of the structural and chemical processes.
-- Yu.I. Arshavskiy

Card 2/2

GABELOVA, N.A.; FRANK, G.M.

Studying rapid translocations of substances in the organism by the
use of gamma-irradiating isotopes. Biofizika 3 no.2:233-243 '58.
(MIRA 11:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(RADIOACTIVE TRACERS) (GAMMA RAYS) (PHYSIOLOGY--RESEARCH)

FRANK, G.M.

ORBELI, L.A., akademik, PAVLOVSKIY, Ye.N., akademik, ENGEL'GARDT, V.A.,
akademik, BARANOV, P.A., CHERNIGOVSKIY, V.M., GENITSINSKIY, A.G.
FRANK, G.M.

Dmitrii Nikolaevich, Nasonov; obituary. Biofizika 3 no.3:257-258
'58 (MIRA 11:6)

1. Chlen-korrespondent AN SSSR (for Baranov, Chernigovskiy)
2. Chlen-korrespondent AMN SSSR (for Genitsinskiy, Frank).
(NASONOV, DMITRII NIKOLAEVICH, 1895-1957)

AUTHOR:

Frank, G. M.

30-58-3-2/45

TITLE:

Physical-Chemical and Structural Basis of Biological Processes (Fiziko-khimicheskiye i strukturnyye osnovy biologicheskikh protsessov)

PERIODICAL:

Vestnik Akademii Nauk SSSR, 1958,
(USSR)

Nr 3, pp. 15-28

ABSTRACT:

Two schools of research caused to radically revise our opinion concerning the material nature of the phenomena of life. The first is connected with the application of isotope indicators for the investigation of metabolism, the second with the application of electron microscopy and X-ray structural analysis for the investigation of the molecular structure of the living organism. In this way it is possible to discover the actual velocities of the processes of metabolism, as well as the repeated circulation-capacity of substances. It was proved that hundreds of fermentation systems operate in a coordinating manner by creating and maintaining the structural and functional order of living organism. 4 years ago, the technique of a socalled

Card 1/4

Physical-Chemical and Structural Basis of Biological Processes 30-58-3-2/45

ultra-fine section (up to $0,01\mu$) was developed by which a possibility of examining living tissue was created. This technique made it possible to make full use of the power of modern electron microscopes. In 1957 H. Fernandez-Moran succeeded in improving this technique up to $0,005\mu$, which made it possible to record a nerve streak with 1 million full-enlargement (ref 2, fig 1). The contraction of muscles must be considered a clear example for the mobility of biological structures. At the laboratory of the Institute for Biophysics AS USSR, of which the author is the director, the structural transformations connected with muscle contraction were carefully investigated in cooperation with N. V. Samosudova (ref 5). The same results were obtained by the application of another method by R. G. Lyudkovskaya (ref 6). Figure 2 shows the various stages of muscle contraction. Fig. 3 shows the change of the ohm component of the impedance for 2 types of contraction according to the paper by N. A. Gladzhalova (ref 7). In connection with the problem of X-ray

Card 2/4

Physical-Chemical and Structural Basis of Biological Processes 30-58-3-2/45

structural analysis the author referred to the work by B. K. Lemazhikhin. He further stresses great importance of new methodical processes for the solution of the most urgent biological tasks, in which case the latest technical achievements must be utilized. Also the application of molecular spectral analysis (infrared spectrometry) on larger scale, as well as of the method of electron-paramagnetic resonance is recommended. In connection with the question of excitability the author refers to the work by D. N. Nasonov. The works by Ye. V. Kornakova, G. M. Frank, L. N. Shteyngauz (ref 10), R. G. Lyudkovskaya, G. M. Frank (ref 11), and L. P. Kayushin and R. G. Lyudkovskaya (ref. 12, figure 4) deal with structural transformations which take place in the nervous system by the creation and propagation of an excitation. In conclusion the author stresses the fact that all problems dealt with possess not only theoretical value, but that they can be applied in practice in medical science and agriculture. Also research work carried out in connection

Card 3/4

Physical-Chemical and Structural Basis of Biological Processes 30-58-3-2/45

with muscle contraction can be utilized for the action of the myocardium. The muscle is described as a sort of motor in which the energy of chemical compositions is transformed straight into mechanical work (avoiding the thermal phase). The practical importance of acquiring closer knowledge of the nature of nervous activity requires no further prove. There are 4 figures and 13 references, 9 of which are Soviet.

Card 4/4

FRANK, G.M.

AUTHOR: Troshin, A. S., Doctor of Biology SOV/30-58-7-22/49

TITLE: News in Brief (Kratkiye soobshcheniya) The Second International Conference on the Mechanism of Stimulation (Vtoroye mezhdunarodnoye soveshchaniye po mekhanizmu vozbuздhdeniya)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 7, pp. 103 - 104 (USSR)

ABSTRACT: The conference was held at the Humboldt-University (Universitet im. A. Gumbol'dta) in Berlin, in the DDR (German Democratic Republic)(GDR) from March 31 to April 2. It was attended by physiologists, biochemists and biophysicists, who with respect to the mechanism of stimulation, take two different views. One group proceeds from the albumin theory developed by D.N.Nasonov and his students. The other group relies on the principles of the diaphragm theory proposed by A.Hodgkin, and the Cambridge School(kembridzhskaya shkola) of physiologists. 24 reports were submitted. They are partly listed below:
1)V.Ya.Aleksandrova (USSR) on the Albumin Theory of Injury and Stimulation.
2)B.N.Tarusov (USSR) on Electrical Parameters of the Cells in

Card 1/3

News in Brief. The Second International Conference
on the Mechanism of Stimulation

SOV/30-58-7-22/49

Different Functional States.

- 3)E.Ernst, Hungary (Vengriya) showed that individual fibrils react to every electrical irritation by a distinctive contraction.
- 4)G.M.Frank, USSR, on Structural Changes in Nerve Fibers Caused by Excitation.
- 5)A.Kaladzhiyeva, Bulgaria (Bulgariya), A. Wolf (Vol'f), V. Linke, DDR, Ye.M.Makovskiy, Roumania (Rumyniya) investigated the properties of solutions of native albumins.
- 6)G.Vogel (Fogel'), G.Krause (Krause), G.John(Dzhon), DDR, described the results obtained by the investigation of the influence exercised by temperature and various poisons of fermentation on the monodular (monodal'nyy) active current.
- 7)G. Lippmann, E.Schubert (Shubert), DDR, on the Influence exercised by Metabolism Upon the Process of Cell-Excitation.
- 8)E.Gutman, Ts.Vodichka, Czechoslovakia (Chechoslovakiya) on Impulseless Processes in Nervous Structures.
- 9)L.Lyubinskaya, Poland (Pol'sha), K.Cheng, China (Kitay), on the Morphological Structure of Some Elements of the Nervous System.

Card 2/3

News in Brief. The Second International Conference
on the Mechanism of Stimulation

SOV/30-58-7-22/49

An animated discussion of the reports took place after the
papers had been read.

Card 3/3

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

FRANK, G.M.

physicochemical and structural processes taking place during the
origin and spreading of the impulse along the nerve fiber. Izv. AN
SSSR Ser. biol. 23 no.1:26-38 Ja-F '58. (MIRA 11:1)

1. Institut biofiziki AN SSSR.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

3o(7)

AUTHOR: Frank, G. M., Corresponding Member,
AMS USSR SOV/3o-58-11-28/48

TITLE: Soviet Scientists on the Exposition (Sovetskiye uchenyye o
vystavke)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 11,
pp 102 - 104 (USSR)

ABSTRACT: In connection with the Brussels World Exposition
the opinion is sometimes expressed that the exhibition
was only of little interest to scientists since the
achievements of modern technology were largely
popularized and presented in a rather superficial
way. It would however be completely wrong to overlook,
because of these superficialities, the fact that the
exposition very clearly demonstrates the triumph
of technology. In this respect the Soviet pavilion
is the foremost: here, no publicity is needed to
acquaint people with the technological progress made;
the achievements of Soviet technology speak for them-
selves. The author mentions, in this connection,

Card 1/2

Soviet Scientists on the Exposition

SOV/30-58-11-28/48

the great impression that the Soviet artificial earth satellites and planes have made. In the author's opinion the underlying idea of the exhibition in the Palace of Sciences is the knowledge of the material nature, of the forms of life; in this regard, he goes on to mention the Soviet scientist M.A. Peshkov's film on zytology and a series of exhibits by other Soviet scientists. There is 1 figure.

Card 2/2

FRANK, G.M.

ABSTRACTS OF COMMUNICATIONS

After a continuous infusion of pitressin ACTH produces blunted ACTH release and suppression of HSI. This results in markedly decreased and synthesis of specifically interfering with the feedback mechanism of regulation. Current concepts of HSI response by the pituitary are aimed at further

19. P. et S. 1922. A.: le
groupe thermique sur
la partie échancrée
en échancrure (fig. 2).

meilleure confection des meubles contre la chaleur chez l'homme par une augmentation de la fréquence respiratoire (20 respirations par minute) et une diminution de la fréquence cardiaque. Les deux dernières étapes permettent d'abaisser la température corporelle en périphérie pour faire de l'énergie à l'usage de l'organisme.

monaire et l'absence très
évidente d'effets. Pour con-
siderer l'insuffisance pri-
maire respiratoire aérén-
tiale canthique. Au mo-
ment où il existe une diffe-
rence, lorsque la fre-
quence est élevée que la ré-
sistance des deux respi-
rations sont aux moindre-
urs égales, alors il existe une
différence de tension dans
les deux respiration. Si
l'insuffisance respiratoire
est assez forte pour empêcher
la respiration normale, alors
il existe une obstruction
à la respiration.

ABSTRACTS FROM THE PROCEEDINGS OF THE INT'L. CONGRESS OF PHYSIOLOGICAL SCIENCES, BERNINA ALPS

卷之三

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

FRANK, C.M.

21(4); 17(0)

PLATE I BOOK EXPLOSION

507/2008

International Conference on the Peaceful Uses of Atomic Energy. 2d. Geneva, 1958
 Radiobiology; radiobiology; radiobiology i radiotoksicheskaya meditsina
 (Reports of Soviet Scientists) Radiobiology and Radiation Medicine
 Moscow, Izd. no. Glavn. upr. po ispol'zovaniyu atomnoy energii pri
 Atomnoy promstv. SSSR, 1959, 429 p. 8,000 copies printed. (Series:
 Voprosy Meditsinskoye i radiotoksicheskaya poiskosha i sovremennoye stanovlyeniye energii.)
 (Series, v. 2)

General Ed.: A.V. Libedinsky, Corresponding Member, USSR Academy of Medical
 Sciences; Ed.: T.S. Sharikova; Tech. Ed.: Ye.I. Nasal.

PURPOSE: This book is intended for physicians, scientists, and engineers
 as well as for professors and students at universities where radiobiology and
 radiation medicine are taught.

CONTENTS: This is Volume 5 of a 6-volume set of reports delivered by Soviet
 scientists at the Second International Conference on the Peaceful Uses of
 Atomic Energy, held on September 1-13, 1958, in Geneva. Volume 5 contains
 26 reports edited by Candidates of Medical Sciences A.Y. Libedinsky and V.F.
 Zelenov. The reports cover problems of the biological effects of ionizing
 radiation, future consequences of radiation in small doses, genetic effects
 of radiation, treatment of radiation sickness, uses of radioactive isotopes
 in medical and biological research, uses of radioisotopes for diagnostic
 and therapeutic purposes, soil absorption of radionuclides, fixation products,
 their isolation by plants, and their storage in plants and products. References accompany each report.

Reports of Soviet Scientists (cont.)

Libedinsky, A.V., and D.A. Mikhalev, Changes Appearing in the Nervous System Following the Toxicant Radiation Effect (Report No. 205)	507/2008
Zelenov, A.E. Role of Suprasellar Glands in the Pathogenesis of Radiation Effects (Report No. 213)	70
Sharkova, T.S. Primary Immunity in Molluscs Under the Action of Ionizing Radiation (Report No. 220)	95
Batin, A.M., and A.L. Shabotach, The Importance of Change in the Native State of Polysaccharide in Radiation Therapy (Report No. 231)	105
Frolov, G.M., L.P. Al'tshulova, and A.D. Shevchenko, Some Problems in the Bio- physical Analysis of Radiobiological Effects (Report No. 237)	110
Agranovich, I.Ja. Some Plasma and Cell Reactions to the Ionizing Radiation (Report No. 260)	125
Mironov, M. Indole and A.F. Kabanenok, Electron Paramagnetic Resonance Spectra of Intermediates Amine-Acids, Peptides, Proteins, and Lyophilized Tissues (Report No. 270)	139
Caro, J.P. 314	132

General Information and Bibliography: The First International Conference on
 the Peaceful Uses of Atomic Energy, Geneva, Switzerland, October 1958 (Report No. 201)

F RANK G.M.

20(5)
Author:
Title:
Pronounce:
Abstract:

SOV/30-59-1-77
Problems Concerning Philosophy of Modern Natural Science (Philosophical Basis Supporting Sovremennaya Fizikoastronomicheskaya)

Yestnik Akademii Nauk SSSR, 1959, No. 6, pp. 152-158 (USSR)

In the end of October last year an all-Union conference took place which dealt with these problems. The conference had been convened by the Academy and (Academy of Sciences) and the Institute of West Siberian Observatories (Ministry of Higher Education of the USSR). More than 600 well-known experts in the spheres of sciences and philosophy took part, among them 1000 Academicians and Corresponding Members, Academy of Sciences, and Branch Academicians of the Academies of the Union, Republics, Research Institutes, and universities. Soviet scientists from socialist countries from Bulgaria, Armenia, Germany, Hungary and Czechoslovakia were present. It was the aim of the conference to make the opening of Soviet philosophy and scientists for the purposes of scientific materialistic generalization of the achievements of modern science and for raising its level which is intended to contribute towards a solution of the most important scientific problems in our short period of time.

There were the following reports by Academicians and Corresponding Members of the USSR and K. V. Gavrilovskiy, Chairman, of the Committee for the Organization of the Conference on the occasion of their opening speeches. In the Plenary Session, the following Reports were heard and discussed: N. N. Mitić, Academician, spoke about Lenin's "Materialism and Empirio-criticism" as the great ideological weapon for the people; N. N. Osip'yanov, Academician of the AS CR, dealt in his report with V. I. Lenin and the philosophical problems of modern physics. S. M. Edinov, Doctor of Philosophical Sciences, Corresponding Member, Academy of Pedagogical Sciences of RSFSR, reported on the interrelation in medicine of the forms of movement of matter. A. D. Aleksandrov, Corresponding Member, Academy of Sciences USSR, spoke about the interpretation of quantum mechanics of the theory of relativity. S. I. Sobolev, Academician, and L. A. Lyusternik, Professor, dealt with cybernetics and natural science, problems of cosmology.

V. A. Keldysh, Academician, reported on some methodical investigations in biological problems. M. G. M. Bratke, Corresponding Member, AS USSR, reported on the problems of physics and chemistry in the light of the achievements of modern natural science. A. I. Oparin, Academician, spoke about the formation of life. S. I. Grashchenkov, a Report deal with the Lenin's reflex theory and modern physiology of the animal organs. A. Z. Shandruk, spoke about the opinions expressed by M. E. Cheliakov. Yefimov said that in the capitalist countries a certain approach in physics is approached.

Card 1/4

Card 2/4

KARPAS, A.M. [translator]; NIKOL'SKAYA, T.A. [translator]; SAMOSUDOVA, N.V. [translator]; FANK, G.M., prof., red.; RAYSKAYA, N.A., red.; GRIBOVA, M.P., tekhn.red.

[Problems in the electron microscopy of the tissues; collection of articles] Voprosy elektronnoi mikroskopii tkanei; sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1959. 115 p.

(MIRA 13:8)

(ELECTRON MICROSCOPY) (TISSUES)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3

FRANK, G.M., prof.

The atom and health. Zdorov'e 5 no.5:6-8 My '59.

1. Chlen-korrespondent AMN SSSR.
(ATOMIC MEDICINE)

(MIRA 12:11)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413530011-3"

AUTHOR: Frank, G.M., Professor SOV/26-59-1-21/34

TITLE: Physics and Chemistry in Biological Research (Fizika i khimiya v biologicheskem issledovanii)

PERIODICAL: Priroda, 1959⁴⁸, Nr 1, pp 65 - 72 (USSR)

ABSTRACT: The author describes contemporary methods of investigating metabolism, using chemical and physical procedures and devices. The electron microscope, together with considerably improved methods of microtomy, is one of the greatest assets of modern science in finding out exactly what makes living organisms differ from dead matter. The marked atom method also assists in the study of formerly unknown life processes. Thus the new fields of molecular morphology, ultracytochemistry, microcybernetics, and special muscular-contraction studies have come into being. Electron-microscopic magnifications of a myelin nerve sheath (Figure 1), mitochondria of vertebrate muscles

Card 1/2

Physics and Chemistry in Biological Research SOV/26-59-1-21/34

(Figure 2), a cross section through a muscle of an insect (Figure 3), and the structure of the axoplasm of a nerve fiber (Figure 5), are discussed in detail. The author concludes that further successful investigations in this direction may prove to be of extreme value in medicine and agriculture. There are 4 photos and 1 diagram.

ASSOCIATIONS: Institut biologicheskoy fiziki AN SSSR /Moskva (The Institute of Biological Physics of AS USSR /Moscow)

Card 2/2

FRANK, C. M.

10(9) *None Given*
 SUBJECTS *Sov/73-88-4-6/12*
 TITLE *All-Union Conference on Philosophic Problems of Modern Natural Sciences (Vsesoyuznaya konferentsiya po filosofskim voprosam sotsial'no-tekhnicheskikh nauk) By the Editor [On Redaction]*
 PERIODICALS *Uspishi fizicheskikh nauk*, 1959, Vol. 68, No. 4, pp. 717-727 (USSR)

ABSTRACT: The above conference took place at Moscow in October 1958. It was attended by more than 600 scientists, among them 20 delegations and 30 Corresponding Members of the USSR, as well as by delegates from Bulgaria, Hungary, East Germany, and Czechoslovakia. The following lectures delivered at the conference are listed: Academician M. M. Lyubin (on Lenin's book "Materialism and Empirio-criticism"), Academician A. G. Uspenskiy (on the Philosophy of Modern Criticism), Doctor of Philosophical Sciences E. N. Zemlyanovskiy (on Lenin and the Philosophical School of Modern Criticism), Doctor of Philosophical Sciences N. B. Edroff (On the Relationship of the Forms of Motion of Matter in Mechanics), Academician V. A. Fok (on Interpretation of Quantum Mechanics) - already published in "Uspishi fizicheskikh nauk", 1951, Vol. 62, No. 1; Corresponding Member A. S. Aleksandrov ("The Philosophical Content of and the

Significance of the Theory of Relativity"), Academician P. A. Kapitza (on the Philosophical Problems of Cosmology), Academician Yu. A. Dzhabotinskii (on the Theory and Practice of Marxist Materialism in Natural Sciences), Corresponding Member A. N. Tikhonov (on the Relationship between Mathematics and Natural Sciences), Corresponding Member A. A. Ershov (On the Problem of the Possibility of an Oscillatory Movement in the Investigation of Natural Problems), Academician A. I. Ostrikh (The Problem of the Origin of Life in the Light of the Progress Made by Modern Natural Sciences), and, finally, Corresponding Member A. V. Ustin M. I. Granovich (on Lenin's Theory of Reflexion and the Modern Physiologist). Of the 50 delegations that took part in the discussion of these lectures, best, the introductory speech delivered by the President of the USSR, Academician A. N. Semenov, is reproduced, and so is the closing speech by Corresponding Member A. S. Aleksandrov, and finally a resolution passed by the All-Union Conference on Philosophic Problems of Modern Natural Science is given under the title "On the Tasks of Dealing with Philosophic Problems of Natural Sciences". The resolution essentially contains an appeal for the

Investigation of all new scientific facts in the sense of the theory of Marx and Lenin and of dialectic materialism for adaptation of ideas to the resolution of the 20th Party Congress, cooperation of institutes, coordination of research work, as well as some problems of organization. In conclusion, a list of printed works is given, in which the lectures delivered during the conference were published. There are 6 Soviet references.

Card 1/3

Card 2/3

Card 3/3

FRANK, G. M., otv.red.; TRINCHER, K.S., red.izd-va; SIMKINA, G.S.,
tekhn.red.

[Physicochemical and structural foundations of biological
phenomena] Fiziko-khimicheskie i strukturnye osnovy biologii-
cheskikh iavlenii; sbornik rabot. Moskva, Izd-vo Akad.nauk
SSSR, 1960. 173 p. (MIR 14:3)

1. Akademiya nauk SSSR. Institut biologicheskoy fiziki.
2. Chlen-korrespondent AN SSSR; Institut biologicheskoy fiziki
AN SSSR, Moskva (for Frank).
(BIOPHYSICS)